

### REMARKS

Applicant appreciates the detailed examination evidenced by the Office Action. Claims 1-11 and 13-23 stand rejected under 35 U.S.C. § 102(b) as being anticipated by PCT Published Application No. WO 00/74350 to Rasmusson et al. (hereinafter "Rasmusson"). Claims 12-14, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over by Rasmusson in view of U.S. Patent Publication No. 2002/0065045 to Kim (hereinafter "Kim").

Applicant has carefully examined Rasmusson and Kim, and submits that a fundamental difference between the original claims and Rasmusson is that the claims are directed to various apparatus and methods for a wireless terminal to selectively encode information transmitted to, for example, a remote Bluetooth device, while Rasmusson is directed to filtering (not to encoding/decoding) sound received by a wireless terminal 203 from a Bluetooth hands-free adapter 201 to remove echo and noise. All of the independent claims have been amended to incorporate recitations from certain dependent claims and many dependent claims have been amended to independent form incorporating recitations from their base claims and any intervening claims so as to clarify their patentable bases over Rasmusson and Kim.

Applicant submits that many recitations of the pending claims are not disclosed by the cited references. Accordingly, Applicant requests reconsideration and allowance of the pending claims in view of the above-amendments and the following remarks.

**Amended Independent Claims 1, 3, 9, 10, 11, 15, 21, 22, and 23 are Not Anticipated by Rasmusson:**

Claim 1 has been amended to incorporate the recitations of original Claim 5 (now canceled) and to further clarify the type of codec used to encode voice based on the description at page 5 of the present application. Claim 1 now recites:

1. (Currently Amended) A wireless terminal, comprising:  
a short-range communication module that is configured to communicate first information over a short-range wireless interface with a communication device;

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol;

a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver according to a signal processing operation, and is configured to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the short-range communication module using the signal processing operation based on whether the communication device supports an enhanced communication mode.

The Office Action contends on page 4 that Rasmusson discloses each and every one of the recitations of original Claim 5, now incorporated into Claim 1, at page 16, lines 27-30 of Rasmusson. However, page 16, lines 27-30 of Rasmusson recite the following:

In step 309, other algorithms/components are adjusted to best suit the particular hands-free adapter 201 that is to operate with the mobile telephone 203. Such other algorithms/components include, but are not limited to, noise canceler (sic), near-end voice detectors, other communication filters (uplink and downlink).

Rasmusson thus describes that the particular filtering algorithm/component that is used by the mobile telephone 203 to reduce noise or detect voice in sound in a received signal can be adjusted based on the particular hands-free adapter 201 that transmitted that signal. Although the cited and other portions of Rasmusson describe various sound filtering/detection algorithms, nowhere does Rasmusson describe signal encoding, much less, that signal encoding is conditionally carried out. Moreover, neither the cited portion nor elsewhere does Rasmusson describe that the mobile telephone 203 selectively encodes voice using a EFR codec and/or a AMR codec for transmission to the hands-free adapter 201 based on whether the hands-free adapter 201 can receive such encoded voice.

Consequently, Applicant submits that Rasmusson does not disclose many recitations of amended Claim 1 and, consequently, that Claim 1 is not anticipated by Rasmusson.

Independent Claims 3 and 15 contain similar recitations to Claim 1 are therefore submitted to not be anticipated by Rasmusson for at least the reasons explained for Claim 1.

Accordingly, Applicant requests reconsideration and allowance of independent Claims 1, 3, and 15.

Claim 9 has been amended to independent form to incorporate the recitations of original Claims 3 and 4, and now recites:

9. (Currently Amended) A wireless terminal, comprising:  
a Bluetooth module that is configured to communicate first  
information with a remote Bluetooth device;  
a cellular transceiver that is configured to communicate second  
information with a cellular network according to a cellular communication  
protocol and;  
a processor that is configured to convolutionally encode the second  
information for transmission by the cellular transceiver according to a signal  
processing operation, and to selectively convolutionally encode the first  
information according to the signal processing operation for communication  
by the Bluetooth module based on whether the remote Bluetooth device  
supports an enhanced communication mode.

Accordingly, the processor convolutionally encodes information for transmission to a cellular network, and selectively convolutionally encodes information for transmission to a remote Bluetooth device based on whether the Bluetooth device supports an enhanced communication mode.

The Office Action contends on page 4 that Rasmusson discloses each and every one of the recitations of original Claim 9 at page 17, lines 3-6 of Rasmusson. However, page 17, lines 3-6 of Rasmusson recite the following:

In semi-duplex hands-free operation, the mobile controller 209 (or other controller/processor in the mobile telephone 203) may sense whether a far-end speech signal or a near-end speech signal has higher energy, and block transmission of the weaker signal.

Rasmusson thus describes a way to block a speech signal (i.e., weaker far-end/near-end speech signal) when the mobile controller 209 is operating in semi-duplex hand-free. Applicant submits that neither the cited nor other portions of Rasmusson describe that the speech signal or any other signal is convolutionally

encoded and then transmitted or, much less, that the mobile telephone 203 conditionally carries out convolutional coding. Moreover, neither the cited portion nor elsewhere does Rasmusson describe that the mobile telephone 203 convolutionally encodes information for communication by a Bluetooth module based on whether the hands-free adapter 201 can receive such encoded voice.

Consequently, Applicant submits that Rasmusson does not disclose many recitations of amended Claim 9 and, consequently, that Claim 9 is not anticipated by Rasmusson.

Amended independent Claim 21 contains similar recitations to amended Claim 9 and is therefore submitted to not be anticipated by Rasmusson for at least the reasons explained for Claim 9.

Accordingly, Applicant requests reconsideration and allowance of independent Claims 9 and 21.

Claim 10 has been amended to independent form to incorporate the recitations of original Claims 3 and 4, and now recites:

10. (Currently Amended) A wireless terminal, comprising:  
a Bluetooth module that is configured to communicate first  
information with a remote Bluetooth device;  
a cellular transceiver that is configured to communicate second  
information with a cellular network according to a cellular communication  
protocol and;  
a processor that is configured to interleave the second information over  
time for transmission by the cellular transceiver according to a signal  
processing operation, and to selectively interleave the first information over  
time according to the signal processing operation for communication by the  
Bluetooth module based on whether the remote Bluetooth device supports an  
enhanced communication mode.

Accordingly, the processor interleaves information over time for transmission to a cellular network, and selectively interleaves information over time for transmission to a remote Bluetooth device based on whether the Bluetooth device supports an enhanced communication mode.

The Office Action contends on page 5 that Rasmusson discloses each and every one of the recitations of original Claim 10 at page 5, lines 5-21 of Rasmusson. However, page 5, lines 5-21 of Rasmusson describe an echo canceller in which the

coefficients of the echo canceller are adapted based on a Least Mean Square (LMS) process. Applicant submits that the LMS process for adapting coefficients of the echo canceller has nothing to do with interleaving information over time for transmission. Furthermore, Applicant submits that nowhere does Rasmusson describe that speech or any other information is interleaved over time for transmission or, much less, that the mobile telephone 203 conditionally interleaves any type of information over time. Moreover, Rasmusson does not describe that the mobile telephone 203 selectively interleaves information over time for communication by a Bluetooth module based on whether the hands-free adapter 201 can receive such an interleaved signal.

Consequently, Applicant submits that Rasmusson does not disclose many recitations of amended Claim 10 and, consequently, that Claim 10 is not anticipated by Rasmusson.

Amended independent Claim 22 contains similar recitations to amended Claim 10 and is therefore submitted to not be anticipated by Rasmusson for at least the reasons explained for Claim 10.

Accordingly, Applicant requests reconsideration and allowance of independent Claims 10 and 22.

Claim 11 has been amended to independent form to incorporate the recitations of original Claim 3, and now recites:

11. (Currently Amended) A wireless terminal, comprising:  
a Bluetooth module that is configured to communicate first  
information with a remote Bluetooth device;  
a cellular transceiver that is configured to communicate second  
information with a cellular network according to a cellular communication  
protocol; and  
a processor that is configured to encode the second information for  
transmission by the cellular transceiver using a signal processing operation,  
and configured to selectively encode the first information according to the  
signal operation for transmission by the Bluetooth module based on whether  
the remote Bluetooth device supports an enhanced communication mode,  
wherein the processor is configured to selectively encode the first information  
by selectively embedding control data in the first information based on  
whether the remote Bluetooth device supports an enhanced communication mode.

Accordingly, the processor selectively embeds control data in information that is transmitted to a remote Bluetooth device based on whether the Bluetooth device supports an enhanced communication mode.

The Office Action contends on page 5 that Rasmusson discloses each and every one of the recitations of original Claim 11 at page 15, lines 11-32 of Rasmusson. However, page 15, lines 11-32 of Rasmusson describe *inter alia* that the mobile telephone 203 optimizes settings for gain of a microphone amplifier 219, which is within the mobile telephone 203. and the gain of a loudspeaker amplifier 217, which is also within the mobile telephone 203, depending upon a performance class of the hands-free adapter 201. Applicant submits neither the cited portion nor elsewhere does Rasmusson describe that the mobile telephone 203 embeds any control data into information transmitted to the hands-free adapter 201 or, much less, that the mobile telephone 203 conditionally embeds control data into information transmitted to the hands-free adapter 201 based on whether the hands-free adapter 201 supports an enhanced communication mode.

Consequently, Applicant submits that Rasmusson does not disclose many recitations of amended Claim 11 and, consequently, that Claim 11 is not anticipated by Rasmusson.

Amended independent Claim 23 contains similar recitations to amended Claim 11 and is therefore submitted to not be anticipated by Rasmusson for at least the reasons explained for Claim 11.

Accordingly, Applicant requests reconsideration and allowance of independent Claims 11 and 23.


The dependent Claims 2, 7, 8, 12, 13, 14, 19, 20, 24, and new Claim 26 are patentable at least per the patentability of the independent claims from which they depend.

In re: William O. Camp, Jr.  
Application No.: 10/626,224  
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**CONCLUSION**

In light of the above amendments and remarks, Applicants respectfully submit that the above-entitled application is now in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,




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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MS AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 25, 2006.

  
Audra Vooten